Forage Species

Range, Description, and Life History

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Forage species are primarily stocked in private waters throughout the Southeast as a food source for largemouth bass and other predator species. Unfortunately, the ideal forage species for all management situations does not exist. Therefore, managers often attempt to maximize largemouth bass production by stocking a multi-forage base. In many southeastern states, private landowners must rely on private hatcheries as sources for appropriate forage species.

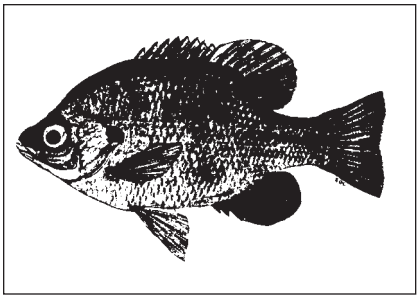
Information on commonly utilized forage species, including those for the bluegill, redear sunfish, thread-fin shad, golden shiner, and fathead minnow is provided. The reader is also referred to baitfish fact sheets for additional information concerning golden shiners and fathead minnows.

Bluegill (*Lepomis macrochirus*)

Range

The bluegill is the best known member of the sunfish family, originally ranging from the Mississippi, Great Lakes, and Eastern Seaboard drainage basin. However, because of its adaptability, the bluegill has been widely introduced across the United States.

Description



Bluegill

The bluegill has a deep, compressed head and a very small mouth. Its ear flap is broad, short, and colored blue or black. A distinct, irregular dark spot is present on the posterior of the dorsal fin. Colors may vary with sex and water quality, but normally several vertical bars are visible along the sides. The bluegill is widely stocked as both a sport and forage fish.

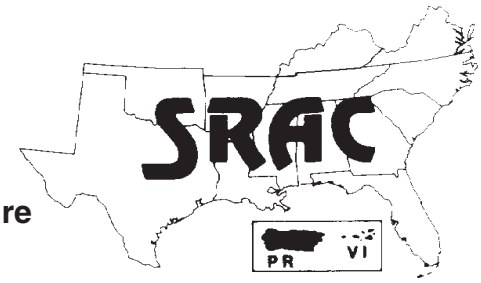
Life history

Bluegills are highly regarded as a forage species because of their capability of spawning numerous times during the warm months. Spawning is initiated in the spring when water temperatures reach 75° F and continues until water temperatures cool in the fall. Bluegill are colony spawners, with males often fanning out 50 or more circular nests in areas 1 to 5 feet in depth.

Bluegill mature at lengths of 3 inches with females capable of laying between 10,000 and 60,000 eggs per spawn.

Oklahoma Cooperative Extension Fact Sheets are also available on our website at:
http://osufacts.okstate.edu

Southern Regional Aquaculture Center



Eggs hatch in 3 to 5 days depending on water temperature. No parental care is provided after hatching.

Young bluegill feed primarily on plankton switching to a diet of insects and other small aquatic life as their size increases. Bluegill also feed on the eggs and fry of other fish species.

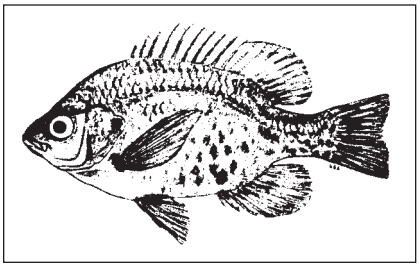
The bluegill is a sunfish preferring static, clear waters of ponds, reservoirs, and sluggish streams. This species seldom strays far from shore and prefers structures such as weed beds, fallen timber, pilings, etc.

Redear sunfish (*Lepomis microlophus*)

Range

The redear sunfish may be found from Missouri to Indiana and south to Florida and Texas.

Description



Redear sunfish

The redear sunfish is dark olive above, yellow to green on the sides and shading to almost white on the belly. The ear flap is black with a red to orange spot. Like the bluegill, the redear sunfish has a small mouth. This species is stocked as a sport and forage species throughout its range.

Life history

The spawning habits of the redear sunfish are similar to those of the bluegill, although this species does not have such a prolonged spawning period. Redears are also more

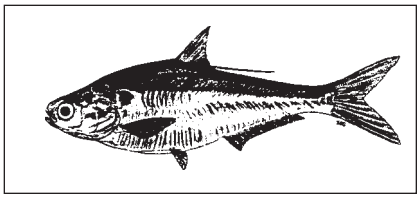
of a bottom dweller than bluegills and therefore spawn in deeper water. A preferred food item of the redear is aquatic snails, hence the name “shellcracker” is often used for this species.

Threadfin shad (*Dorosoma petenense*)

Range

The threadfin shad is a member of the herring family and ranges from Florida to Mexico and northward. Introductions of threadfin shad as a supplemental forage species have greatly increased its range. The threadfin is susceptible to winterkill at water temperatures of 42° F, limiting its range northward.

Description



Threadfin shad

The threadfin shad appears to be an excellent forage fish because it is short lived, grows only to a maximum size of 7-8 inches and schools in large numbers. The threadfin shad is very similar to gizzard shad in appearance but can be distinguished by its terminal mouth and yellowish fins.

Life history

A pelagic (open water) schooling species often stocked as a supplemental forage, threadfins spawn in the spring and early summer with a secondary spawn often occurring in the early fall. Spawning usually occurs early in the morning on available vegetation. The eggs adhere to submerged and floating objects. Females lay from 2,000 to 24,000 eggs.

The young and adults feed on a variety of planktonic organisms and organic debris. Many researchers believe that threadfin shad often compete for plankton with young-of-the-year predator species, especially largemouth bass. Life expectancy seldom exceeds 2 to 3 years.

Golden shiner (*Notemigonus crysoleucas*)

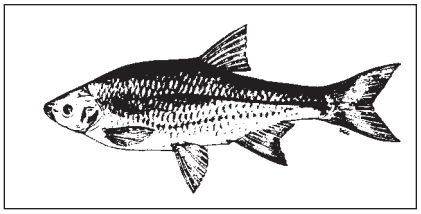
Range

The golden shiner is a member of the minnow family that originally ranged from Saskatchewan to Quebec and southward to Florida and South Central Texas. Its value as a commercial baitfish has led to an increase in its range west of the Rockies.

Description

The golden shiner is a deep-bodied minnow with large silver or gold-colored scales that are rather loosely attached. The lateral line is deeply decurved.

Life history



Golden shiner

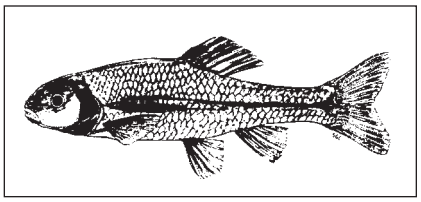
Golden shiners prefer ponds and the shallow water of streams throughout its range. Females grow faster than males with maturity occurring at 1 year of age. Spawning begins when water temperatures reach 70° F and continues through June. The females lay up to 10,000 eggs in vegetated areas. Young hatch in 4 to 8 days and like adults, feed on both plant and animal life.

Fathead minnow (*PImephales promelas*)

Range

The fathead minnow is indigenous to Central North America, west of the Appalachians and south to Mexico. However, the species has greatly increased its range because of its common use as a bait and forage fish.

Description



Fathead minnow

The fathead minnow is cylindrical in shape and has a terminal mouth and small, crowded scales. Color is typically olivaceous above, grading to tan or creamy white below. However, strains of bright red individuals (called Rosey Reds) have been genetically selected and bred over the past several years because of their increased visibility. Total length seldom exceeds 4 inches.

Life history

Both sexes reach maturity at one year of age. Mature males are larger than females and become dark in color and develop breeding tubercules on the head during spawning season.

Spawning begins when water temperatures warm to approximately 65° F and continues during cool periods throughout the summer. Females produce from 200 to 500 eggs per spawn and prefer to lay their eggs on the underside of submerged objects. The females will spawn repeatedly and have been observed to lay over 20 batches of eggs/year. Fatheads feed on small aquatic organisms.

For more information about aquaculture in Oklahoma, see our OSU county Extension agent or contact Marley D. Beem, Extension Aquaculture Specialist, 303J Ag Hall, Stillwater, OK 74078-6013 (phone: 405-744-9636).

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